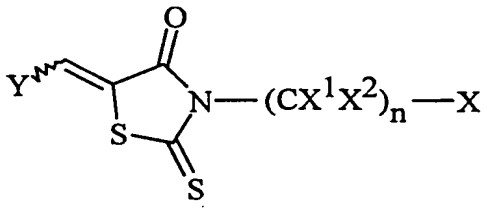
CLAIMS

What is claimed is:

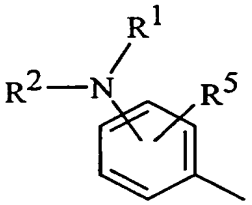
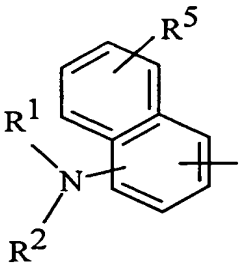
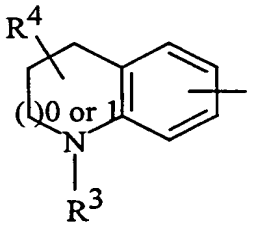
1. A compound having the Formula I:



I

or a pharmaceutically acceptable salts thereof,

wherein:

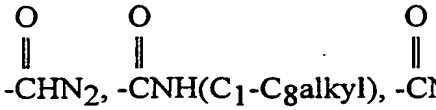
Y is  , or  , or  ;

each n is independently 1 to 3 inclusive;

X^1 and X^2 are independently hydrogen or C_1-C_8 alkyl, or $-(CH_2)_y$-Z;

y is 0 to 4 inclusive;

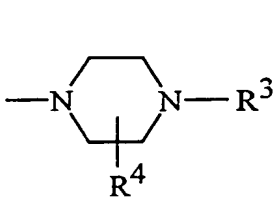
Z is hydrogen, C_1-C_8 alkyl, C_3-C_8 cycloalkyl, C_1-C_8 perfluoroalkyl, C_2-C_8 alkenyl, phenyl, substituted phenyl, naphthyl, substituted naphthyl, -OH, $-OC_1$-C_8 alkyl, $-SC_1$-C_8 alkyl,$-SO_3H$, $-CO_2H$, $-CO_2C_1$-C_8 alkyl,



$-CHN_2$, $-CNH(C_1$-C_8alkyl), $-CN(C_1$-C_8alkyl$)_2$, $-NH_2$, $-NH(C_1$-C_8alkyl),

O
‖
-N(C_1-C_8alkyl)$_2$, -NCC_1-C_8 alkyl, guanidinyl, thienyl, imidazolyl, thiazolyl, or indolyl;

R^1 and R^2 are independently C_1-C_8alkyl or -$(CH_2)_n$-C_3-C_6cycloalkyl, -$(CH_2)_n$-phenyl, or R^1 and R^2 taken together with the nitrogen atom to which they are attached form a cyclic structure selected from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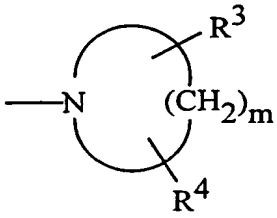
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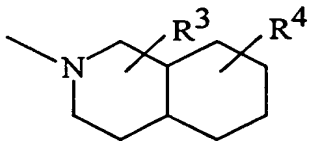
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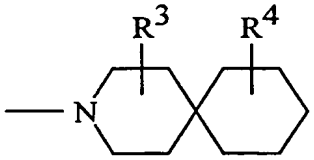

;

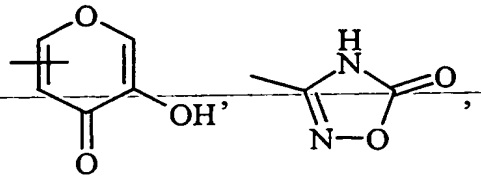
where R^3 and R^4 independently are hydrogen, C_1-C_8 alkyl, -$(CH_2)_n$-phenyl, or -$(CH_2)_n$ cycloalkyl;

R^5 is hydrogen, C_1-C_8 alkyl, halogen, or -CF_3;

each m is 2 to 8 inclusive;

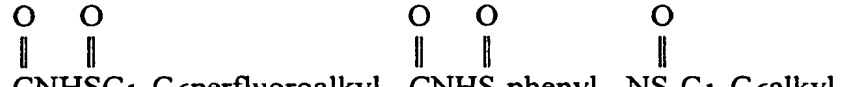
X is -S-OH, -S-NR^3R^4, -SNHC(C_1-C_6perfluoroalkyl), tetrazolyl,

-SNHC-phenyl, -SNH-phenyl,



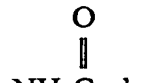
-SNHC(C_1-C_6alkyl), -CNR^{3}R^4, -CNHSC_1-C_6alkyl,

-CNH-phenyl,



-CNHSC_1-C_6perfluoroalkyl, -CNHS-phenyl, -NS-C_1-C_6alkyl,

-N-SOH, -NSC_1-C_6perfluoroalkyl, -NHS-phenyl,

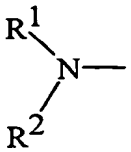


-NH-C-phenyl,

-NHCC_1-C_6perfluoroalkyl, or -NHCC_1-C_6alkyl;

wherein phenyl includes substituted phenyl.

2. A compound in accordance with Claim 1 wherein R^1 is methyl, and R^2 is pentyl or hexyl.

3. A compound in accordance with Claim 1 wherein the  group is located at the para position on the phenyl ring.

4. The compounds:

(Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid ;

(Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid methylamide;

(Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid trifluoroacetyl-amide;

(Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidi3-yl}-N-methyl-acetamide;

(Z) N-({5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;

(Z) N-{5-[4-(Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-methanesulfonamide;

(Z) C,C,C-Trifluoro-N-({5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;

(Z) N-{5-[4-(Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-C,C,C-trifluoro-methanesulfonamide;

(Z) N-(2-{5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) N-(2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolin-3-yl}-ethyl)-methanesulfonamide;

(Z) N-(2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethyl)-benzenesulfonamide;

(Z) C,C,C-Trifluoro-N-(2-{5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethyl)-methanesulfonamide;

(Z) 2,2,2-Trifluoro-N-(2-{5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethyl)-acetamide;

(Z) N-(2-{5-[4-Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}ethyl)-acetamide;

(Z) {5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-methanesulfonic acid;

(Z) 5-[4-(Hexyl-methyl-amino)-benzylidene]-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) 5-(4-Dipentylamino-benzylidene)-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) N-{[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-C,C,C-trifluoro-methanesulfonamide;

(Z) N-{[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-benzenesulfonamide;

(Z) 5-(4-Dibutylamino-benzylidene)-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) N-{2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-methanesulfonamide;

(Z) N-{2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-benzenesulfonamide;

(Z) 5-[(4aS,8aR)-4-(Octahydro-isoquinolin-2-yl)-benzylidene]-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) N-(2-{5-[(4aS,8aR)-4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) N-{2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-4-fluoro-benzenesulfonamide;

(Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) N-{2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-4-fluoro-benzenesulfonamide;

(Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid benzoylamide;

(Z) 2-{5-[4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid benzoylamide;

(Z) 2-{5-[4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) 3-(5-Hydroxy-4-oxo-4H-pyran-2-ylmethyl)-5-[4-(octahydro-isoquinolin-2-yl)-benzylidene]-2-thioxo-thiazolidin-4-one;

(Z) 5-(4-Dibutylamino-benzylidene)-3-(5-hydroxy-4-oxo-4H-pyran-2-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) 3-(5-Hydroxy-4-oxo-4H-pyran-2-ylmethyl)-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-4-one;

(Z) 5-[4[(4-Propyl-piperidin-1-yl)-benzylidene]-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) N-(2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) N-(2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;

(Z) 4-Fluoro-N-(2-{5-[(4aS,8aR)-4-(octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) 4-Fluoro-N-(2-{4-oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) 2-[5-(4-Hexyl-methyl-amino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) N-({5-[4[(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;

(Z) N-({5-[4[(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-C,C,C-trifluoro-methanesulfonamide;

(Z) N-(2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-C,C,C-trifluoro-methanesulfonamide;

(Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid methylamide;

(Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid methylamide;

(Z) 2-[5-(4-Hexyl-methyl-amino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid methylamide;

(Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid methylamide;

(Z) 2-{5-[4-(octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}S-ethanesulfonic acid methylamide;

(Z) 2-{5-[4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}S-ethanesulfonic acid trifluoroacetylamide;

(Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid trifluoroacetylamide;

(Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid trifluoroacetylamide;

(Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid trifluoroacetylamide;

(Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid benzoylamide;

(Z) 2-[5-(4-Hexyl-methyl-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid benzoylamide;

(Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid benzoylamide;

(Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) 2-[5-(4-Hexyl-methyl-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) [5-(4-Hexyl-methyl-amino)-benzylidene]-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4one;

(Z) [5-(4-Propyl-piperidin-1-yl)-benzylidene]-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4one;

(Z) [5-(4-Octahydro-isoquinolin-2-yl)-benzylidene]-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4one;

(Z) 5-(4-Dipentylamino-benzylidene)-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4-one; or

(Z) 5-(4-Dibutylamino-benzylidene)-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4-one.

5. A pharmaceutical composition comprising a compound of Claim 1.

6. A method of treating Alzheimer's disease, the method comprising administering to a patient having Alzheimer's disease a therapeutically effective amount of a compound of Claim 1.

7. A method of inhibiting the aggregation of amyloid proteins to form amyloid deposits, the method comprising administering to a patient in need of inhibition of the aggregation of amyloid proteins an amyloid protein aggregation inhibiting amount of a compound of Claim 1.

8. A method of imaging amyloid deposits, the method comprising the steps of:

a. introducing into a patient a detectable quantity of a labeled compound of Claim 1;

b. allowing sufficient time for the labeled compound to become associated with amyloid deposits; and

c. detecting the labeled compound associated with the amyloid deposits.

9. The method of Claim 8 wherein the patient has or is suspected to have Alzheimer's disease.

10. The method of Claim 8 wherein the labeled compound is a radiolabeled compound.

11. The method of Claim 8 herein the labeled compound is detected using MRI.